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Technical Publication Transfer Using:

Northrop Corporation's Data Supporting:



ASC/YSSA B-2 Program

(Contract #F33567-81-C0067/0051)

MIL-STD-1840A

MIL-D-28000A (IGES)

MIL-M-28001A (SGML)

MIL-R-28002A (Raster)

MIL-D-28003 (CGM)

Quick Short Test Report

13 June 1994



Prepared for
Electronic Systems Center
Air Force CALS Program Office
HQ ESC/AV-2
4027 Colonel Glenn Hwy Suite 300
Dayton OH 45431-1672

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Quick Short Test Report

13 June 1994

Prepared By

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Air Force CALS Test Bed

Notification of Test Results

13 June 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report(QSTR) evaluation of data submitted by:

Northrop Corporation

Identified as follows:

Title:	Technical Publication Transfer
Program:	B-2
Program Office:	ACS/YSSA
Contract No.:	F33567-81-C0067/0051
QSTRNo.:	AFCTB-ID 94-069

Received on the following media: **9-Track Tape**

The results of the QSTR evaluation are as follows:

MIL-STD-1840A Standard	Pass
MIL-STD-1840A Media Format:	Pass
MIL-D-28000A IGES:	Pass
MIL-M-28001A SGML:	Pass
MIL-R-28002A Raster:	Pass
MIL-D-28003 CGM:	Pass

Formal results with associated disclaimer are documented and available from the AFCTB.

**Air Force CALS Test Bed
HQ ESC/AV-2P
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Dayton, OH 45431-1672
Phone: 513-257-3085 FAX: 513-257-5881**

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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Northrop Corporation's interpretation and use of the CALS standards in transferring technical publication data. Northrop used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 94-069

**Date of
Evaluation:** 13 June 1994

Evaluator: George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

**Data
Originator:** J.P. Kent
Northrop Corporation
B2 Division, M/S R213/UM
8900 E. Washington Blvd
Pico Rivera CA 90660
(310) 948-0624

**Data
Description:** Technical Manual Test
3 Document Declaration files
3 Document Type Definitions (DTDs)
4 Initial Graphics Exchange Specification
(IGES) files
3 Text/Standard Generalized Markup Language
(SGML) files
1 Raster file
5 Computer Graphics Metafile (CGM) files

**Data
Source System:**

1840

HARDWARE

SUN IPX

SOFTWARE

Intergrated Technical Data System (ITDS) v2

IGES

HARDWARE

SUN IPX

SOFTWARE

Northrop ITDS Converter - GEF_IGES

Text/SGML

HARDWARE

SUN IPX

SOFTWARE

ITDS v2

Raster

HARDWARE

SUN IPX

SOFTWARE

ITDS v2

CGM

HARDWARE

SUN IPX

SOFTWARE

Northrop B2 ITDS GEF

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN *Tapetool v1.2.10 UNIX*

XSoft *CAPS/CALS v40.4*

MIL-D-28000 (IGES)

HP 735

InterCAP *X-Change v7.82*

Island Software *IslandDraw v3.0*

Carberry *CADLeaf v3.1.2*

SGI Indigo2

Cadkey *Cadkey v6.0*

IDA *CALSVIEW*

International TechneGroup Incorporated

(ITI) *IGES/Works v2.0*

Sun SparcStation 2

AUTODESK *AutoCAD R12*

Carberry *CADLeaf Plus v3.1*

IGES Data Analysis (IDA) *Parser/Verifier v92*

IDA *IGESView v3.05*

International TechneGroup Incorporated

(ITI) *IGES/Works v1.3*

PC 486/50

IDA *IGESView Windows*

MIL-M-28001 (SGML)

PC 486/50

Exoterica *XGMLNormalizer v1.2e3.2*
Exoterica *Validator v2.0 ex1*
McAfee & McAdam *Sema Mark-it v2.3*
Public Domain *sgmls*

MIL-R-28002 (Raster)

HP 735

InterCAP *X-Change v7.82*
Island Graphics *IslandPaint v3.0*

SGI Indigo2

IDA *CALSTView*

SUN SparcStation 2

Carberry *CADLeaf Plus v3.1*
AFCTN *validg4*
AFCTN *xrastb.sun4*

PC 486

IDA *IGESView Windows*
Inset Systems *HiJaak Pro*
Expert Graphics *RxHighlight v1.0*

MIL-D-28003 (CGM)

HP 735

Carberry *CADLeaf Plus v3.1*
InterCAP *X-Change v7.82*
Island Software *IslandDraw v3.0*

SGI Indigo 2

IDA *CALSTView*

SUN SparcStation 2

Island Software *IslandDraw v4.0*

PC 486/50

Advanced Technology Center
(ATC) *ForView R 1.0*
ATC *MetaCheck R 2.10*
Software Publishing Corporation
(SPC) *Harvard Graphics v3.05*
Inset Systems *HiJaak Pro*
Lotus *Freelance v2.01*
Corel *Ventura Publisher*

Standards

Tested:

MIL-STD-1840A
MIL-D-28000A
MIL-M-28001A
MIL-R-28002A
MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was marked with a magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool v1.2.10* utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was read using XSoft's *CAPS read1840A* utility without any reported errors.

The physical structure of the tape meets the requirements defined in ANSI X3.27 and MIL-STD-1840A.

3.2.2 Declaration and Header Fields

No errors were found in the Document Declaration file and data file headers. This portion of the tape meets the requirements defined in MIL-STD-1840A for CALS headers.

4. IGES Analysis

The tape contained four IGES files. These files were evaluated using IDA's *parser/verifier* set for CALS Class I. This utility reported no CALS errors. The Start Sections contained the required conformance statement.

The AFCTB has several tools for viewing IGES files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The files were converted using a utility available within the AFCTB, with no reported errors. The resulting files were read into Island Software's *IslandDraw*, displayed and printed without a reported error. It was noted that files Q204 and Q205 displayed on the left side of the screen. The remainder of the files were located off the page to the left. The origin point of these files was found to be a negative value. An undocumented feature of the translator was used to create complete images.

The files were read into AUTODESK's *AutoCAD R12* without a reported error. File Q206 had an error in the General Note block.

The files were converted using Cadkey's *ig2c* utility. The resulting files were read into Cadkey's *Cadkey*, displayed and printed. Several errors were noted in file Q206, this included the General Note block. An error was also noted in the imbedded font change block.

The files were read into Carberry's *CADLeaf* software without a reported error. When displayed and printed, file Q206 had an error in the General Note block. An error was also noted in the imbedded font change block.

The files were read using IDA's *CALSVIEW*. An error was noted in the General Note block where the vertical line of text was displayed horizontally.

The files were read using IDA's *IGESView* and *IGESView for Windows*. No errors were noted.

The files were read using InterCAPS' **X-Change**. No errors were noted.

The files were read using ITI's **IGESWorks** without a reported error. The files were displayed and printed.

The IGES files were converted using Rosetta Technologies' **Prepare** without a reported error. The resulting files were read into Rosetta Technologies' **Preview**, displayed and printed.

The IGES files had no reported CALS errors. Errors were noted on file Q206 by many of the IGES tools available within the AFCTB. The IGES files meet the CALS MIL-D-28000A, Amendment one specification.

5. SGML Analysis

The tape contained three DTD, three text, and three Format Output Specification Instance (FOSI) files. The DTD files were the same except for the graphic references. All graphic references were placed in one DTD and this file was used for all parsing operations.

The AFCTB has several parsers available for evaluating submitted DTD and text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report. Changes to DTD or text files required by each system are not documented in the report.

The text and DTD files were evaluated using the Exoterica **XGMLNormalizer** parser. This parser reported six warnings in the DTD for mixed content models. Shown below is the error and the section of the DTD it relates to.

```
: \XGML\XGMLNORM.EXE --  
Warning on line 730 in file 9469.dtd:  
An element with mixed content does not permit data characters  
everywhere.  
Spaces and line breaks in element 'NOTICE' may be treated as data  
characters, forcing insertion of markup.  
<!ELEMENT notice          - o          (para+ |%paracon;)          +(table) >  
  
<!ATTLIST                 notice    notctype    (%notctype;)          #IMPLIED  
                           %secur;                                     >
```

The text and DTD files were tested using the Exoterica **Validator exl** parser. Fifteen warnings were issued by this tool. Two warnings were issued for an empty element without a start tag.

```
<!-- **Warning** in "\xgml\9469.dtd", line 522:  
An EMPTY element must have a start tag and must not have an end tag.  
Therefore, it is inappropriate to specify an omissible start tag or  
an inomissible end tag in its declaration.
```

```
The element is "DATABASE".
<!ELEMENT database      - -      EMPTY      >
                        ^^^^^
-->
```

Six warnings were issued for mixed content models, and seven warnings were issued for elements used and not defined.

The text and DTD files from the tape were evaluated using McAfee & McAdam's *Sema Mark-it v2.3* parser. No errors or warnings were issued by this tool.

The text and DTD files from the tape were evaluated using the Public Domain *sgmls* parser. Two warnings were issued by this utility.

sgmls: Warning at \ws\9469.dtd, line 449 in declaration parameter 4:
End-tag minimization should be "O" for EMPTY element

No errors were reported in any of the DTD or text files. However, all but one parsers reported warnings. The files meet the CALS MIL-M-28001A specification.

6. Raster Analysis

The tape contained one Raster file. This file was evaluated using the AFCTN **validg4** utility. This program reported that the file meets the CALS MIL-R-28002A specification.

The files were read into the AFCTN **xrastb.sun4** viewing utility. No problems were noted.

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The file was converted using a utility available within the AFCTB, without a reported error. The resulting file was read into Island Software's **IslandPaint** and displayed.

The Raster file was read into Carberry's **CADLeaf** software without a reported error. The image was displayed with no noted errors.

The file was read using IDA's **CALSVIEW** without a reported error.

The file was read into IDA's **IGESVIEW** and **IGESVIEW for Windows** without a reported error and displayed.

The file was read into and displayed using Inset Systems' **HiJaak for Windows** without a reported error.

The file was read using InterCAP's **X-Change** without a reported error.

The Raster file was converted using Rosetta Technologies' **Prepare** without a reported error. The resulting file was read into Rosetta Technologies' **Preview** and displayed.

The Raster file was imported into Expert Graphics' **Rx-Highlight** and displayed without a reported error.

The Raster file meets the CALS MIL-R-28002A specification.

7. CGM Analysis

The tape contained five CGM files. The files were evaluated using ATC's **MetaCheck** with CALS options. This utility reported no errors in the files.

The CGM files were evaluated using the beta AFCTN **validcgm** utility. This utility reported errors in the files. See Appendix D, Section 12.1.2 for file analysis results.

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The CGM files were converted using a utility available within the AFCTB, without a reported error. The resulting files were read into Island Software's **IslandDraw v3.1**, displayed and printed. File C104 had noted text overflow. The remaining files appeared to be correct.

The files were read into Carberry's **CADLeaf** software and displayed. File C104 had noted text overflow. The remaining files appeared to be correct. When the proportional font option was selected, most text was displayed within the defined boundaries. However, in two of the blocks the text still overflowed into the next block.

The files were read into IDA's **CALSVIEW**. All files appeared to display correctly with the exception of file C104. Text overflow was noted in many blocks along with the restricted text block.

The files were imported into ATC's **ForView**. None of the files displayed and they all caused General Protection error messages.

The files were imported into Lotus' **Freelance**. None of the files displayed and they all caused General Protection error messages.

The files were imported into SPC's **Harvard Graphics v3.05** with reported errors. None of the resulting images were

usable. The reported errors were line style, points adjusted, non-CGM entities encountered, and objects not translated.

When an attempt was made to read into Inset Systems' **HiJaak Pro**, all files generated a Real Precision Not Supported error message.

The files were imported directly into Island Software's **IslandDraw v4.0**. File C104 had text overflow in the restricted text block, and errors in the Elliptical arc blocks. In file C105 the arcs were not complete. File C108 also reported errors.

The files were read into InterCAP's **X-Change** without a reported error. No errors were noted in the displayed images.

An attempt to import the files into Corel's **Ventura Publisher** resulted in errors reported by file C104 and C108. The other two files imported without any errors, but the resulting images were not usable.

The CGM files meet the CALS MIL-D-28003 specification. However, none of the PC based software were able to successfully read the files. Only two of the workstation based software applications were successful.

8. Conclusions and Recommendations

The tape could be read properly using the AFCTN *Tapetool* Software without any reported errors or warnings. The physical structure and CALS headers were correct. This portion of the tape meets the CALS MIL-STD-1840A and ANSI X3.27 requirements.

The IGES files meet the CALS MIL-D-28000A specification.

The SGML files meet the CALS MIL-M-28001A specification. All but one parser, available within the AFCTB, reported warnings in the DTDs.

The Raster file meets the CALS MIL-R-28002A specification.

The CGM files meet the CALS MIL-D-28003 specification. However, most of the software tools available within the AFCTB, could not correctly display the images. This is because the PC-Based software products, used in this test, do not support the high precision levels (16 digit) required by the submitted CGM files.

The tape submitted by Northrop Corporation meets the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information
ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
for Information Interchange
ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

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MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set072

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D002	Document Declaration	D/00260	02048/000001	Extracted
D003	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000001	Extracted
D001G002	DTD	D/00260	02048/000034	Extracted
D001H003	Output Specification	D/00260	02048/000001	Extracted
D001C004	CGM	F/00080	00800/000006	Extracted

<<<< PART OF LOG FILE REMOVED HERE >>>>

D002T001	Text	D/00260	02048/000001	Extracted
D002G002	DTD	D/00260	02048/000034	Extracted
D002H003	Output Specification	D/00260	02048/000001	Extracted
D002Q004	IGES	F/00080	02000/000012	Extracted
D002Q005	IGES	F/00080	02000/000577	Extracted
D002Q006	IGES	F/00080	02000/000033	Extracted
D002Q007	IGES	F/00080	02000/000042	Extracted
D003T001	Text	D/00260	02048/000001	Extracted
D003G002	DTD	D/00260	02048/000034	Extracted
D003H003	Output Specification	D/00260	02048/000001	Extracted
D003R004	Raster	F/00128	02048/000007	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Jun 10 15:58:10 1994

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ITDS01

CONTROLLER

4

Label Identifier: VOL1

Volume Identifier: ITDS01

Volume Accessibility:

Owner Identifier:

Label Standard Version: 4

HDR1D001

ITDS0100010001000100 94160 94160 000000 CONTROLLER

Label Identifier: HDR1

File Identifier: D001

File Set Identifier: ITDS01

File Section Number: 0001

File Sequence Number: 0001

Generation Number: 0001

Generation Version Number: 00

Creation Date: 94160

Expiration Date: 94160

File Accessibility:

Block Count: 000000

Implementation Identifier: CONTROLLER

<<<< PART OF LOG FILE REMOVED HERE >>>>

End of Volume ITDS01

End Of Tape File Set

Deallocating /dev/rmt0...

Tape Import Process terminated normally.

9.3 Tape File Set Validation Log

CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Fri Jun 10 15:58:53 1994

MIL-STD-1840A File Set Evaluation Log

File Set: Set072

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division,
L590/UB, 8900 E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624

srcdocid: CALS_CGM_TEST2

srcrelid: NONE

chglvl: ORIGINAL

dteisu: 19930126

dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT,
TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601

dstdocid: STPRO25.7

dstrelid: NONE

dtetrn: 19940609

dlvacc: ASC/YSSA B-2 F33567-81-C0067/0051

filcnt: T1, H1, G1, C5

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: TEST DOCUMENT

doctl: GEF->CGM Graphics Test

Found file: D001T001

Extracting Text Header Records...

Evaluating Text Header Records...

srcdocid: CALS_CGM_TEST2

dstdocid: STPRO25.7

txtfilid: W

doccls: UNCLASSIFIED

notes: NONE

Saving Text Header File: D001T001_HDR
Saving Text Data File: D001T001_TXT
Found file: D001G002
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: CALS_CGM_TEST2
dstdocid: STPRO25.7
notes: NONE

Saving DTD Header File: D001G002_HDR
Saving DTD Data File: D001G002_DTD

Found file: D001H003
Extracting Output Specification Header Records...
Evaluating Output Specification Header Records...

srcdocid: CALS_CGM_TEST2
dstdocid: STPRO25.7
notes: NONE

Saving Output Specification Header File: D001H003_HDR
Saving Output Specification Data File: D001H003_OS

Found file: D001C004
Extracting CGM Header Records...
Evaluating CGM Header Records...

srcdocid: CALS_CGM_TEST2
dstdocid: STPRO25.7
txtfilid: W
figid: NONE
srcgph: allreal.cgm
doccls: UNCLASSIFIED
notes: NONE

Saving CGM Header File: D001C004_HDR
Saving CGM Data File: D001C004_CGM

<<<< PART OF LOG FILE REMOVED HERE >>>>

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

Found file: D002

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division,
L590/UB, 8900 E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624

srcdocid: CALS_IGES_TEST2

srcrelid: NONE

chglvl: ORIGINAL

dteisu: 19930126

dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT,
TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601

dstdocid: STPRO25.9

dstrelid: NONE

dtetrn: 19940609

dlvacc: ASC/YSSA B-2 F33567-81-C0067/0051

filcnt: T1, H1, G1, Q4

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: TEST DOCUMENT

docttl: GEF->IGES Graphics Test

Found file: D002T001

Extracting Text Header Records...

Evaluating Text Header Records...

srcdocid: CALS_IGES_TEST2

dstdocid: STPRO25.9

txtfilid: W

doccls: UNCLASSIFIED

notes: NONE

Saving Text Header File: D002T001_HDR

Saving Text Data File: D002T001_TXT

Found file: D002G002

Extracting DTD Header Records...

Evaluating DTD Header Records...

srcdocid: CALS_IGES_TEST2

dstdocid: STPRO25.9

notes: NONE

Saving DTD Header File: D002G002_HDR

Saving DTD Data File: D002G002_DTD

Found file: D002H003
Extracting Output Specification Header Records...
Evaluating Output Specification Header Records...

srcdocid: CALS_IGES_TEST2
dstdocid: STPRO25.9
notes: NONE

Saving Output Specification Header File: D002H003_HDR
Saving Output Specification Data File: D002H003_OS

Found file: D002Q004
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: CALS_IGES_TEST2
dstdocid: STPRO25.9
txtfilid: W
figid: NONE
srcgph: apple2d.igs
doccls: UNCLASSIFIED
notes: NONE

Saving IGES Header File: D002Q004_HDR
Saving IGES Data File: D002Q004_IGS

<<<< PART OF LOG FILE REMOVED HERE >>>>

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D002.

Found file: D003
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division,
L590/UB, 8900 E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: CALS_RAS_TEST2
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930126

dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT,
TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.11
dstrelid: NONE
dtetrn: 19940609
dlvacc: ASC/YSSA B-2 F33567-81-C0067/0051
filcnt: T1, H1, G1, R1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: TEST DOCUMENT
docttl: GEF->RAS Graphics Test

Found file: D003T001
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: CALS_RAS_TEST2
dstdocid: STPRO25.11
txtfilid: W
doccls: UNCLASSIFIED
notes: NONE

Saving Text Header File: D003T001_HDR
Saving Text Data File: D003T001_TXT

Found file: D003G002
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: CALS_RAS_TEST2
dstdocid: STPRO25.11
notes: NONE

Saving DTD Header File: D003G002_HDR
Saving DTD Data File: D003G002_DTD

Found file: D003H003
Extracting Output Specification Header Records...
Evaluating Output Specification Header Records...

srcdocid: CALS_RAS_TEST2
dstdocid: STPRO25.11
notes: NONE

Saving Output Specification Header File: D003H003_HDR
Saving Output Specification Data File: D003H003_OS

Found file: D003R004
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: CALS_RAS_TEST2
dstdocid: STPRO25.11
txtfilid: W
figid: NONE
srcgph: test2.ras
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 002560,003584
rdensty: 0300
notes: NONE

Saving Raster Header File: D003R004_HDR
Saving Raster Data File: D003R004_GR4

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D003.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

9.4 Other Tape Reading Logs

```
/cals/caps/Bin/read1840A: --- Read declaration file 'D001      ' ---
/cals/caps/Bin/read1840A: --- Read declaration file 'D002      ' ---
/cals/caps/Bin/read1840A: --- Read declaration file 'D003      ' ---
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
W.T.sgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
CALSCGMTEST2.G.dtd'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
CALSCGMTEST2.H.out'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
allrealcgm.C.cgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
arcscgm.C.cgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
fillscgm.C.cgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
linescgm.C.cgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
textcgm.C.cgm'.
-- declaration file indicates 1 files of type T
-- declaration file indicates 1 files of type G
-- declaration file indicates 1 files of type H
-- declaration file indicates 0 files of type Q
-- declaration file indicates 0 files of type R
-- declaration file indicates 5 files of type C
-- declaration file indicates 0 files of type X
-- declaration file indicates 0 files of type P
-- declaration file indicates 0 files of type Z
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
W.T.sgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
CALSIGESTEST2.G.dtd'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
CALSIGESTEST2.H.out'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
apple2digs.Q.igs'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
classic2digs.Q.igs'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
ientityigs.Q.igs'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
lgtableigs.Q.igs'.
-- declaration file indicates 1 files of type T
-- declaration file indicates 1 files of type G
-- declaration file indicates 1 files of type H
```

```
-- declaration file indicates 4 files of type Q
-- declaration file indicates 0 files of type R
-- declaration file indicates 0 files of type C
-- declaration file indicates 0 files of type X
-- declaration file indicates 0 files of type P
-- declaration file indicates 0 files of type Z
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO2511/
W.T.sgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO2511/
CALSRATEST2.G.dtd'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO2511/
CALSRATEST2.H.out'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO2511/
test2ras.R.cci'.
-- declaration file indicates 1 files of type T
-- declaration file indicates 1 files of type G
-- declaration file indicates 1 files of type H
-- declaration file indicates 0 files of type Q
-- declaration file indicates 1 files of type R
-- declaration file indicates 0 files of type C
-- declaration file indicates 0 files of type X
-- declaration file indicates 0 files of type P
-- declaration file indicates 0 files of type Z
```

10. Appendix B - Detailed IGES Analysis

10.1 File D002Q006

10.1.1 Parser/Verifier Log

```
*****
*****  IGES PARSE/VERIFIER  *****
*****      MARCH 1993      *****
*****  IGES Data Analysis  *****
*****      (708) 344-1815      *****
*****
```

Input file is q206.igs

Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

Today is June 13, 1994 8:17 AM

```
*****
*****  CHECK FILE SYNTAX  *****
*****
```

Section	Records
Start	11
Global	3
Directory	400 (200 Entities)
Parameter	389
Terminate	1

NITPICK 2489: Excess precision in real constant (16.00099754) for XS of D
3.

NITPICK 2489: Excess precision in real constant (-0.12499999) for P1.X of D
7.

NITPICK 2489: Messages regarding excess precision suppressed.

```
*****
*****  SUMMARY AND STATISTICS  *****
*****
```

*** File and Product Name Information ***

File name from sender = 'identity.igs'
File creation Date.Time = '940607.070004'
Model change Date.Time = ''
Author = 'KASSEL'
Department = 'CALs TEST NETWORK'
Product name from sender = 'identity.igs'
Destination product name = 'identity.igs'

*** Parameter Delimiters ***

Delimiter = ','
Terminator = ';'

*** Originating System Data ***

System ID = 'ITDS CONVERTER: GEF_IGES'
Preprocessor version = '1.0'
Specification version = 6 (IGES 4.0)

*** Precision levels ***

Integer bits = 32
Floating point - Exponent = 38 Mantissa = 6
Double precision - Exponent = 308 Mantissa = 15

*** Global Model Data ***

Model scale = 1.0000E+00
Unit flag = 1
Units = 'IN'
Line weights = 8
Maximum line thickness = 1.600000E-02
Minimum line thickness = 2.000000E-03
Granularity = 1.000000E-03
Maximum coordinate = 1.650000E+01

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status: Visible	200
Blanked	0
Independence: Independent	185
Physically Subordinate	12
Logically Subordinate	3
Totally Subordinate	0

Entity use:	Geometry	67
	Annotation	132
	Definition	1
	Other	0
	Logical/Positional	0
	2D parametric	0
	Construction geometry	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	200
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
-----	----	-----	-----	----
100	0	0	3	Circular arc
102	0	0	1	Composite curve
104	1	0	2	Conic arc - ellipse
104	2	0	1	Conic arc - hyperbola
104	3	0	1	Conic arc - parabola
106	11	0	1	Copious data - Piecewise planar, linear string(2D linear path)
106	63	0	1	Simple closed planar curve
110	0	0	27	Line
112	0	0	2	Parametric spline curve
124	0	0	12	Transformation matrix
126	0	0	6	Rational B-spline curve
212	0	0	129	General note
230	0	0	1	Sectioned area (Standard Crosshatching)
308	0	0	1	Subfigure definition
404	0	0	1	Drawing
406	16	0	1	Property - Drawing size
406	18	0	1	Property - Intercharacter spacing
408	0	0	8	Single subfigure instance
410	0	0	1	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	200

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled 200

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
3	1	4	2	-	27	2	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined
116	118	120	122	124	125	126	128	
-	-	-	-	12	-	-	-	Undefined
-	-	-	-	-	-	6	-	Solid
-	-	-	-	-	-	-	-	Dashed

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	200	(0.0020)

*** Colors Used in Data ***

Defaulted	25
Red	175

***** ENTITY ANALYSIS *****

*** Entity type: 100

*** Entity type: 102

*** Entity type: 104

WARNING 2265: Start point off conic by 1.349441E-03 at D 23.
WARNING 2039: End point off conic by 1.435289E-03 at D 23.
WARNING 2265: Start point off conic by 1.094899E-03 at D 27.
WARNING 2039: End point off conic by 1.719588E-03 at D 27.

*** Entity type: 106

*** Entity type: 110

-- 27 lines averaging 7.155823E+00 units --

*** Entity type: 112

*** Entity type: 124

WARNING 2492: Undefined line font value (0) specified for D 21.
WARNING 2492: Undefined line font value (0) specified for D 25.
WARNING 2492: Undefined line font value (0) specified for D 29.
WARNING 2492: Messages regarding undefined line font suppressed.
12 transformation matrices, 4 non-zero translations.
NOTE 2341: 4 matrices contain translation information.

*** Entity type: 126

*** Entity type: 212

129 text strings in data file.
Average text aspect ratio in file is 0.9982937.
Minimum text aspect ratio in file is 0.7978667.
Maximum text aspect ratio in file is 1.4857143.

FONTS USED IN FILE

FONT	COUNT	NAME
1	127	Default ASCII Style
1002	2	Symbol Font 2

*** Entity type: 230

*** Entity type: 308

Subfigure name at D 19: 'subfig0'.
Number of included entities = 6.

*** Entity type: 404

Drawing at D 5 contains 1 views.
Drawing at D 5 contains 0 annotation entities.

*** Entity type: 406

*** Entity type: 408

Subfigure instance at D	363 references subfigure at D	19.
Subfigure instance at D	373 references subfigure at D	19.
Subfigure instance at D	377 references subfigure at D	19.
Subfigure instance at D	381 references subfigure at D	19.
Subfigure instance at D	385 references subfigure at D	19.
Subfigure instance at D	389 references subfigure at D	19.
Subfigure instance at D	393 references subfigure at D	19.
Subfigure instance at D	397 references subfigure at D	19.

*** Entity type: 410

Scale of view at D 1 is 1.000000E+00.
Orthographic View entity at D 1 has 0 clipping planes specified.
XMIN = Not Set XMAX = Not Set
YMIN = Not Set YMAX = Not Set
ZMIN = Not Set ZMAX = Not Set

*** Message Summary ***

2015: 4 Mathematically incorrect definitions.
2038: 145 Invalid Line font values.

*** Error Summary ***

0 fatal errors
0 severe errors
0 errors
149 warnings
0 cautions
914 nitpicks
1 notes

*** End of Analysis of q206.igs ***

10.1.2 Parser Log - AutoCAD R12

Title: IGESIN Journal (v5.1 Nov 05 1992)

File: C:/TMP/Q206.xli

Date: Mon, Jun 13, 1994

Time: 13:02:55

EVALUATION VERSION -- NOT FOR RESALE

Translator S/N: 117-10075750

Translating from IGES file: C:/TMP/Q206.IGS
to AutoCAD Drawing: C:\Q206.dwg

Options obtained from: default settings

Curves Approximated to Tolerance of 0.01

Surfaces Approximated to Tolerance of 0.01

Text Font/Style mapping:

IGES Text font	Style Name	ACAD Font
0	SYMBOL0	iges0
1	STANDARD	txt
2	LEROY	txt
3	FUTURA	txt
6	COMP80	txt
12	GOTHICE	gothice
13	GOTHICI	gothici
14	ROMANS	romans
17	ROMANT	romant
18	ROMAND	romand
19	OCR	txt
1001	SYMBOL1	iges1001
1002	SYMBOL2	iges1002
1003	SYMBOL3	iges1003
2001	KANJI	bigfont

IGES Linetype/AutoCAD Linetype mapping

IGES Line Font	AutoCAD linetype	Shape file
0	BYLAYER	
1	CONTINUOUS	
2	DASHED	acad.lin
3	PHANTOM	acad.lin
4	CENTER	acad.lin
5	DOT	acad.lin

Parse phase

*** Warning (IEVM_BAD_START_POINT_104) ***

(DE 23, TF 104:2) Entity's start point not on the conic. Value found was
-5.0045203e-001, 2.1541785e-001.

Action taken: Start point moved 1.3494413e-003 units, from -5.0045203e-001,
2.1541785e-001 to -5.0045203e-001, 2.1676729e-001.

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***

(DE 39, TF 100:0) Entity's radii are not equal. Start point radius:
5.0142377e-001. Terminate point radius: 5.0096873e-001.

Action taken: Start point moved 2.2751903e-004 units from 1.4990643e+000,
8.9985771e+000 to 1.4990647e+000, 8.9988046e+000. Terminate point moved
2.2751903e-004 units from 9.9903320e-001, 9.4986076e+000 to 9.9880568e-001,
9.4986070e+000.

*** Warning (IEVM_BAD_CONTINUITY_112) ***

(DE 369, TF 112:0) Entity's Degree of Continuity, 0, is incorrectly specified.
Degree of Continuity calculated to be 1.

Action taken: Degree of Continuity set to 1.

=====
Start Section:

CONFORMANCE:

MIL-D-28000 Amendment1, 20 December 1988
Technical Illustration Class I Subset

ILLUSTRATION IDENTIFIER:

ientity.igs

GEF	0.499002	0.5
GEF	16.5	10.5

Global Section:

Parameter Delimiter: ,
Record Delimiter: ;
Sending Product ID: ientity.igs
File Name: ientity.igs
System ID: ITDS CONVERTER: GEF_IGES
Preprocessor Version: 1.0
Size of Integer: 32

Sgl. Precision Mag: 38
Sgl. Precision Sig: 6
Dbl. Precision Mag: 308
Dbl. Precision Sig: 15
Receiving Product ID: identity.igs
Model Space Scale: 1.000000
Unit Flag: 1
Unit String: IN
of Line Weights: 8
Maximum Line Width: 0.016000
Creation Date: 06/07/94 07:00:04
Minimum Resolution: 0.001000
Maximum Coordinate: 16.500000
Author: KASSEL
Organization: CALS TEST NETWORK
IGES Version Number: 6
Drafting Standard: 0

Entity Summary:

Type	Form	Description	Count
100	0	Circular Arc	3
102	0	Composite Curve	1
104	1	Ellipse	2
104	2	Hyperbola	1
104	3	Parabola	1
106	11	Planar Piecewise Linear Curve	1
106	63	Simple Closed Planar Curve	1
110	0	Line	27
112	0	Parametric Spline Curve	2
124	0	Transformation Matrix	12
126	0	Rational B-Spline Curve (General)	6
212	0	General Note (Simple)	129
230	0	Section Area (Standard Fill)	1
308	0	Subfigure Definition	1
404	0	Drawing (form 0)	1
406	16	Property (Drawing Size)	1
406	18	Property (Int-character Spacing)	1
408	0	Subfigure Instance	8
410	0	View	1
Total			200

=====

Translation phase

Drawing Entity (404 Form 0) at DE 5, with

name = ,
size = 16.000998, 10.000000,
units = IN,

was processed in the AutoCAD drawing file: C:\Q206.dwg

*** Warning (ACAD_NEW_VIEW_VOLUME_GENERATED) ***

(DE: 1 TF: 410:0)

A new view volume has been generated for the view with:

XMIN (-1.387808), XMAX (18.386810),
YMIN (-1.386810), YMAX (12.385481),
ZMIN (-1.886810), ZMAX (1.886810).

IGES Entity Summary

Type	Form	Description	Count	Processed	Errors
100	0	Circular Arc	3	3	0
102	0	Composite Curve	1	1	0
104	1	Ellipse	2	2	0
104	2	Hyperbola	1	1	0
104	3	Parabola	1	1	0
106	11	Planar Piecewise Linear Curve	1	1	0
106	63	Simple Closed Planar Curve	1	1	0
110	0	Line	23	23	0
112	0	Parametric Spline Curve	2	2	0
126	0	Rational B-Spline Curve (General)	6	6	0
212	0	General Note (Simple)	129	129	0
230	0	Section Area (Standard Fill)	1	1	0
308	0	Subfigure Definition	1	1	0
404	0	Drawing (form 0)	1	1	0
406	16	Property (Drawing Size)	1	1	0
408	0	Subfigure Instance	8	8	0
410	0	View	1	1	0
			=====	=====	=====
Totals			183	183	0

Unsupported IGES Entity Summary

Type	Form	Description	Count
406	18	Property (Int-character Spacing)	1
			=====
Total			1

AutoCAD Entity Summary

Entity	Created	Errors
=====	=====	=====
LINE	31	0
CIRCLE	1	0
TEXT	134	0
ARC	2	0
INSERT	10	0
POLYLINE	14	0
BLOCK	3	0
Totals	=====	=====
	195	0

=====

Error Summary:

The following message was issued 1 time(s)
Entity's radii are not equal. Start point radius: %.7e. Terminate point radius: %.7e.

The following message was issued 4 time(s)
Entity's start point not on the conic. Value found was %.7e, %.7e.

The following message was issued 4 time(s)
Entity's End Point not on the conic. Value found was %.7e, %.7e.

The following message was issued 1 time(s)
Entity's Degree of Continuity, %d, is incorrectly specified. Degree of Continuity calculated to be %d.





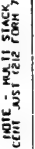

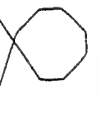












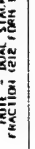






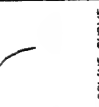


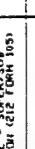
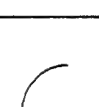
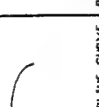


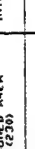
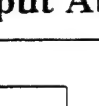
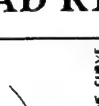


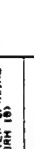
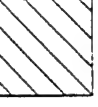
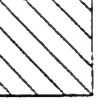
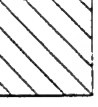
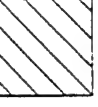
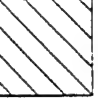
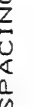
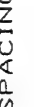
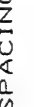
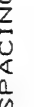
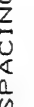





The following message was issued 1 time(s)
A new view volume has been generated for the view with:
XMIN (%lf), XMAX (%lf),
YMIN (%lf), YMAX (%lf),
ZMIN (%lf), ZMAX (%lf).

Status: 0
Warning: 11
Error: 0
Fatal: 0







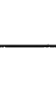























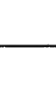


















































Elapsed Time:

Processor: 00:00:14
Clock: 00:00:14


















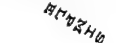











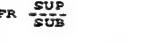




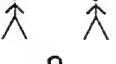
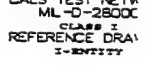
10.1.3 Output AutoCAD R12

	CIRCULAR ARC (100)		LINE (110)		RATIONAL B-SPLINE CURVE, HYPERBOLIC ARC (126 FORM 5)		M STACK CENTER		NOTE - MULTI STACK, CENTER JUST (126 FORM 5)
	COMPOSITE CURVE (102)		PARABOLIC SPLINE CURVE (112)		GENERAL NOTE - SIMPLE (126 FORM 6)		M STACK RIGHT		NOTE - MULTI STACK, RIGHT JUST (126 FORM 6)
	CONIC ARC - GENERAL (104 FORM 0)		TRANSFORMATION MATRIX (114 FORM 0)		IMAGINED		DUAL STACK		FRACTION (126 FORM 100)
	CONIC ARC - ELLIPSE (104 FORM 1)		RATIONAL B-SPLINE CURVE (126 FORM 0)		DUAL STACK		DUAL STACK		NOTE - DUAL STACK, FRACTION (126 FORM 100)
	CONIC ARC - HYPERBOLA (104 FORM 2)		RATIONAL B-SPLINE CURVE, LINE (126 FORM 1)		SUPER		IM BED		NOTE - FRACTION, FRACTION (126 FORM 102)
	CONIC ARC - PARABOLA (104 FORM 3)		RATIONAL B-SPLINE CURVE, CIRCULAR ARC (126 FORM 2)		SUPER		IM BED		NOTE - FRACTION, FRACTION (126 FORM 103)
	LINEAR PLANAR CURVE (106 FORM 1)		RATIONAL B-SPLINE CURVE, ELLIPTICAL ARC (126 FORM 3)		SUPER		IM BED		NOTE - FRACTION, FRACTION (126 FORM 104)
	SIMPLE CLOSED AREA (106 FORM 0)		RATIONAL B-SPLINE CURVE, PARABOLIC ARC (126 FORM 4)		M STACK LEFT		M STACK LEFT		NOTE - MULTI STACK, LEFT JUST (126 FORM 4)
	SECTIONED AREA (123)		SECTIONED AREA (123)		SECTIONED AREA (123)		SECTIONED AREA (123)		SECTIONED AREA (123)
	SPACING		INTERCHARACTER SPACING (106 FORM 18)		INTERCHARACTER SPACING (106 FORM 18)		INTERCHARACTER SPACING (106 FORM 18)		INTERCHARACTER SPACING (106 FORM 18)
	CALSTEST NETWORK (106 FORM 19)		CALSTEST NETWORK (106 FORM 19)		CALSTEST NETWORK (106 FORM 19)		CALSTEST NETWORK (106 FORM 19)		CALSTEST NETWORK (106 FORM 19)


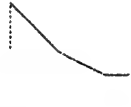





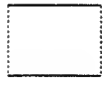









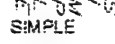
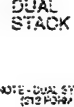

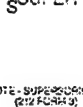


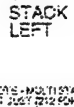



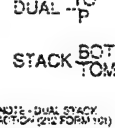
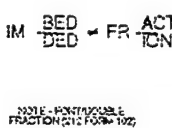
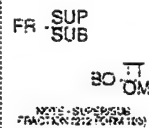
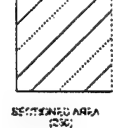


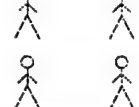
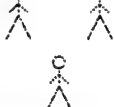

10.1.4 Output Cadkey v5.02

	CIRCULAR ARC (100)		COMPOSITE CURVE (102)		CUBIC ARC - GENERAL (104 FORM 0)		RATIONAL B-SPLINE CURVE (106 FORM 0)		CUBIC ARC - ELLIPSE (104 FORM 1)		CONIC ARC - INTERPOLA (104 FORM 2)		LINEAR PLANNING CURVE (106 FORM 1)		SIMPLE CLOSED AREA (106 FORM 5)
	LINE (110)		PARAHELIC SPIRAL CURVE (112)		TRANSFORMATION MATRIX SET (124 FORM 0)		RATIONAL B-SPLINE CURVE (106 FORM 1)		CIRCULAR ARC (104 FORM 1)		CONIC ARC - PARABOLA (104 FORM 3)		LINEAR PLANNING CURVE (106 FORM 1)		RATIONAL B-SPLINE CURVE (106 FORM 5)
	SIMPLE		SIMPLE		DUAL STACK (124 FORM 1)		IN OED		SUPER		S SUB		SUPER SUB		M STACK LEFT
	CIRCULAR ARC (100)		COMPOSITE CURVE (102)		CUBIC ARC - GENERAL (104 FORM 0)		RATIONAL B-SPLINE CURVE (106 FORM 1)		CUBIC ARC - INTERPOLA (104 FORM 2)		CONIC ARC - PARABOLA (104 FORM 3)		LINEAR PLANNING CURVE (106 FORM 1)		SIMPLE CLOSED AREA (106 FORM 5)
	SINGLE SURFIGURE	 	RECTANGULAR SURFIGURE	 	CIRCULAR SURFIGURE	 	CIRCULAR SURFIGURE	 	CIRCULAR SURFIGURE	 	CIRCULAR SURFIGURE	 	CIRCULAR SURFIGURE	 	CIRCULAR SURFIGURE
	CIRCULAR ARC (100)														
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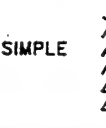









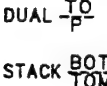
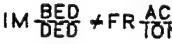

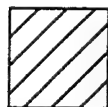


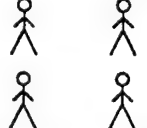
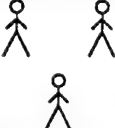
10.1.5 Output CADLeaf

 CIRCULAR ARC (100)	 COMPOSITE CURVE (100)	 CONIC ARC - GENERAL (100 FORM 0)	 CONIC ARC - ELLIPSE (100 FORM 1)	 CONIC ARC - HYPERBOLA (100 FORM 2)	 CONIC ARC - PARABOLA (100 FORM 3)	 LINEAR PLANAR CURVE (100 FORM 11)	 SIMPLE CLOSED ARC (100 FORM 0)
 LINE (110)	 PARAMETRIC SPLINE CURVE (140)	 TRANSFORMATION MATRIX 2x1 (100 FORM 0)	 RATIONAL B-SPLINE CURVE (100 FORM 0)	 RATIONAL B-SPLINE CURVE LINE (100 FORM 1)	 RATIONAL B-SPLINE CURVE CIRCULAR ARC (100 FORM 2)	 RATIONAL B-SPLINE CURVE ELLIPTICAL ARC (100 FORM 3)	 RATIONAL B-SPLINE CURVE PARABOLIC ARC (100 FORM 4)
 RATIONAL B-SPLINE CURVE HYPERBOLIC ARC (100 FORM 5)	 GENERAL NOTE - SIMPLE (100 FORM 0)	 DUAL STACK NOTE - DUAL STACK (100 FORM 1)	 IMBEDDED NOTE - EMBEDDED FONT (100 FORM 2)	 SUPER NOTE - SUPERSCRIPT (100 FORM 3)	 SUB NOTE - SUBSCRIPT (100 FORM 4)	 SUPER SUB NOTE - SUPER/SUB SCRIPT (100 FORM 5)	 M STACK LEFT NOTE - MULTI STA CK LEFT JUST (200 FORM 1)
 M STACK CENTER NOTE - MULTI STACK LEFT JUST (210 FORM 2)	 M STACK RIGHT NOTE - MULTI STACK LEFT JUST (210 FORM 3)	 FRACTION NOTE - SIMPLE FRACTION (210 FORM 100)	 DUAL TO FRACTION STACK BOT TOM NOTE - DUAL STACK FRACTION (210 FORM 101)	 IMBEDDED FRACTION NOTE - POINT/DOUBLE FRACTION (210 FORM 102)	 SUPER SUB FRACTION NOTE - SUPER/SUB FRACTION (210 FORM 103)	 SHADED AREA (200)	 SPACING INTER-CHARACTER SP. (200 FORM 10)
 SINGLE OFFSPRING OFFSPRING (200)	 HORIZONTAL OFFSPRING OFFSPRING (200)	 VERTICAL OFFSPRING OFFSPRING (200)					 CALSTESTNETA ML-D-28000 CLASS 1 REFERENCE DRAWING IDENTITY

10.1.6 Output CALSView

 CIRCULAR ARC (100)	 COMPOSITE CURVE (105)	 CONIC ARC - GENERAL (104 FORM 0)	 CONIC ARC - ELLIPSE (104 FORM 1)	 CONIC ARC - HYPERBOLA (104 FORM 2)	 CONIC ARC - PARABOLA (104 FORM 3)	 LINEAR B-SPLINE CURVE (126 FORM 1)	 SIMPLE CLOSED AREA (124 FORM 0)
 LINE (101)	 PARAMETRIC SPLINE CURVE (117)	 TRANSFORMATION MATRIX (104 FORM 0)	 RATIONAL B-SPLINE CURVE (126 FORM 2)	 RATIONAL B-SPLINE CURVE (126 FORM 3)	 RATIONAL B-SPLINE CURVE CIRCULAR ARC (126 FORM 2)	 RATIONAL B-SPLINE CURVE ELLIPTICAL ARC (126 FORM 3)	 RATIONAL B-SPLINE CURVE PARABOLIC ARC (126 FORM 4)
 RATIONAL B-SPLINE CURVE HYPERBOLIC ARC (126 FORM 5)	 GENERAL NOTE - SIMPLE (212 FORM 0)	 DUAL STACK (212 FORM 1)	 IMBEDDED (212 FORM 2)	 SUPER (212 FORM 3)	 SUB (212 FORM 4)	 SUPER SUB (212 FORM 5)	 MULTI STACK LEFT (212 FORM 6)
 MULTI STACK CENTER (212 FORM 7)	 MULTI STACK RIGHT (212 FORM 8)	 FRACTION (212 FORM 100)	 DUAL TO STACK BOTTOM (212 FORM 101)	 IMBEDDED FRACTION (212 FORM 102)	 FRACTION SUPER BOTTOM (212 FORM 103)	 SECTIONED AREA (212)	 INTERCHARACTER SPACING (400 FORM 10)
 SINGLE SUBFIGURE (400)	 RECTANGULAR SUBFIGURE (412)	 CIRCULAR SUBFIGURE (414)					 CALS TEST NETWORK MIL-D-28000 CLASS 1 REFERENCE DRAWING ENTITY




























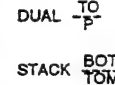

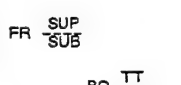



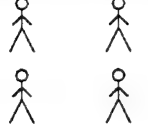
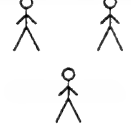

10.1.7 Output IGESView

							
CIRCULAR ARC (100)	COMPOSITE CURVE (102)	CONIC ARC - GENERAL (104 FORM 0)	CONIC ARC - ELLIPSE (104 FORM 1)	CONIC ARC - HYPERBOLA (104 FORM 2)	CONIC ARC - PARABOLA (104 FORM 3)	LINEAR PLANAR CURVE (108 FORM 1)	SIMPLE CLOSED AREA (108 FORM 2)
							
LINE (110)	PARAMETRIC SPLINE CURVE (112)	TRANSFORMATION MATRIX 0-1 (124 FORM 0)	RATIONAL B-SPLINE CURVE (128 FORM 0)	RATIONAL B-SPLINE CURVE LINE (128 FORM 1)	RATIONAL B-SPLINE CURVE CIRCULAR ARC (128 FORM 2)	RATIONAL B-SPLINE CURVE ELLIPTICAL ARC (128 FORM 3)	RATIONAL B-SPLINE CURVE PARABOLIC ARC (128 FORM 4)
							
RATIONAL B-SPLINE CURVE PARABOLIC ARC (128 FORM 5)	GENERAL NOTE - SIMPLE (212 FORM 0)	NOTE - DUAL STACK (212 FORM 1)	NOTE - IMBEDDED FONT CHANGE (212 FORM 2)	NOTE - SUPERSCRIPT (212 FORM 3)	NOTE - SUBSCRIPT (212 FORM 4)	NOTE - SUPER/SUBSCRIPT (212 FORM 5)	NOTE - MULTI STACK LEFT JUST (212 FORM 6)
							
NOTE - MULTI STACK LEFT JUST (212 FORM 7)	NOTE - MULTI STACK RIGHT JUST (212 FORM 8)	NOTE - SIMPLE FRACTION (212 FORM 10)	NOTE - DUAL STACK FRACTION (212 FORM 11)	NOTE - FONT/DOUBLE FRACTION (212 FORM 12)	NOTE - SUPER/SUB FRACTION (212 FORM 13)	SECTIONED AREA (230)	INTERCHARACTER SPACE (400 FORM 0)
							CALS TEST NETWORK MIL-D-28000 CLASS 1 REFERENCE DRAWING 1-ENTITY
SINGLE SUBFIGURE DISTANCE (400)	RECTANGULAR SUBFIGURE DISTANCE (412)	CIRCULAR SUBFIGURE DISTANCE (414)					

10.1.8 Output IGESWorks










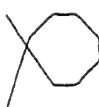







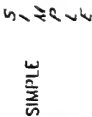




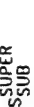


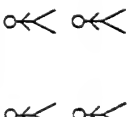
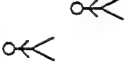
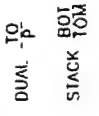

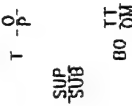


[illegible]

10.1.9 Output IslandDraw

							
CIRCULAR ARC (100)	COMPOSITE CURVE (102)	CONIC ARC - GENERAL (104 FORM 0)	CONIC ARC - ELLIPSE (104 FORM 1)	CONIC ARC - HYPERBOLA (104 FORM 2)	CONIC ARC - PARABOLA (104 FORM 3)	LINEAR PLANAR CURVE (108 FORM 1)	SIMPLE CLOSED (108 FORM 2)
							
LINE (110)	PARAMETRIC SPLINE CURVE (112)	TRANSFORMATION MATRIX D=1 (124 FORM 0)	RATIONAL B-SPLINE CURVE (126 FORM 0)	RATIONAL B-SPLINE CURVE LINE (126 FORM 1)	RATIONAL B-SPLINE CURVE CIRCULAR ARC (126 FORM 2)	RATIONAL B-SPLINE CURVE ELLIPTICAL ARC (126 FORM 3)	RATIONAL B-SPLINE PARABOLIC ARC (126 FORM 4)
							
RATIONAL B-SPLINE CURVE HYPERBOLIC ARC (128 FORM 5)	GENERAL NOTE - SIMPLE (212 FORM 0)	NOTE - DUAL STACK (212 FORM 1)	NOTE - IMBEDDED FONT CHANGE (212 FORM 2)	NOTE - SUPERSCRIPT (212 FORM 3)	NOTE - SUBSCRIPT (212 FORM 4)	NOTE - SUPER/SUB SCRIPT (212 FORM 5)	NOTE - MULTI S LEFT JUST (212 F
							
NOTE - MULTI STACK CENT JUST (212 FORM 7)	NOTE - MULTI STACK RIGHT JUST (212 FORM 8)	NOTE - SIMPLE FRACTION (212 FORM 100)	NOTE - DUAL STACK FRACTION (212 FORM 101)	NOTE - FONT/DOUBLE FRACTION (212 FORM 102)	NOTE - SUPER/SUB FRACTION (212 FORM 105)	SECTIONED AREA (230)	INTERCHARACTER S (408 FORM 1)
							
SINGLE SUBFIGURE INSTANCE (408)	RECTANGULAR SUBFIGURE INSTANCE (412)	CIRCULAR SUBFIGURE INSTANCE (414)					CALS TEST NET MIL-D-280C CLASS 1 REFERENCE DR I-ENTITY

lge2draw/ID

10.1.10 Output Preview

							
CIRCULAR ARC (1100)	COMPOSITE CURVE (1101)	CONIC ARC - GENERAL (1104 FORM 01)	CONIC ARC - ELLIPSE (1104 FORM 11)	CONIC ARC - HYPERBOLA (1104 FORM 21)	CONIC ARC - PARABOLA (1104 FORM 31)	LINEAR PLANAR CURVE (1108 FORM 11)	SIMPLE CLOSED AREA (1108 FORM 61)
							
LINE (1110)	PARABOLIC SPLINE CURVE (1121)	TRANSFORMATION (1124 FORM 01)	RATIONAL B-SPLINE CURVE (1128 FORM 01)	RATIONAL B-SPLINE CURVE (1128 FORM 11)	RATIONAL B-SPLINE CURVE (1128 FORM 21)	RATIONAL B-SPLINE CURVE (1128 FORM 31)	RATIONAL B-SPLINE CURVE (1128 FORM 41)
							
NOTE - MULTI STACK, CENTER (1212 FORM 71)	GENERAL NOTE - SIMPLE (1212 FORM 01)	NOTE - DUAL STACK (1212 FORM 11)	NOTE - IMAGINED FORM (1212 FORM 21)	NOTE - SUPERSCRIPT (1212 FORM 31)	NOTE - SUBSCRIPT (1212 FORM 41)	NOTE - SUPER/SUBSCRIPT (1212 FORM 51)	NOTE - MULTI STACK, LEFT (1212 FORM 61)
							
SINGLE SURFACE (1408)	RECTANGULAR SURFACE (1412)	CIRCULAR SURFACE (1414)	NOTE - DUAL STACK, FRACTION (1212 FORM 101)	NOTE - CONTOUR/FRACTION (1212 FORM 102)	NOTE - SUPER/SUB FRACTION (1212 FORM 103)	SECTIONED AREA (1250)	INTERCHARACTER SPACING (1408 FORM 18)
							CALS TEST NETWORK (140000 MIL-D-14000) REFERENCE DRAWING 1-ENTITY

11. Appendix C - Detailed SGML Analysis

11.1 Exoterica XGMLNormalizer Parser

C:\XGML\XGMLNORM.EXE --

Warning on line 730 in file 9469.dtd:

An element with mixed content does not permit data characters everywhere.

Spaces and line breaks in element 'NOTICE' may be treated as data characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --

Warning on line 817 in file 9469.dtd:

An element with mixed content does not permit data characters everywhere.

Spaces and line breaks in element 'INTERNATLSTD' may be treated as data characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --

Warning on line 856 in file 9469.dtd:

An element with mixed content does not permit data characters everywhere.

Spaces and line breaks in element 'HOWTOUSE' may be treated as data characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --

Warning on line 1366 in file 9469.dtd:

An element with mixed content does not permit data characters everywhere.

Spaces and line breaks in element 'CALLOUT' may be treated as data characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --

Warning on line 1548 in file 9469.dtd:

An element with mixed content does not permit data characters everywhere.

Spaces and line breaks in element 'ENTRY' may be treated as data characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --

Warning on line 1587 in file 9469.dtd:

An element with mixed content does not permit data characters everywhere.

Spaces and line breaks in element 'FTNOTE' may be treated as data characters, forcing insertion of markup.

11.2 Exoterica Validator exl

```
<!-- **Warning** in "\xgml\9469.dtd", line 522:
  An EMPTY element must have a start tag and must not have an end tag.
  Therefore, it is inappropriate to specify an omissible start tag or an
  inomissible end tag in its declaration.
  The element is "DATABASE".
  <!ELEMENT database      - -      EMPTY      >
                                ^^^^^
-->

<!-- **Warning** in "\xgml\9469.dtd", line 604:
  An EMPTY element must have a start tag and must not have an end tag.
  Therefore, it is inappropriate to specify an omissible start tag or an
  inomissible end tag in its declaration.
  The element is "MEDIUM".
  <!ELEMENT medium      - -      EMPTY>
                                ^^^^^
-->

<!-- **Warning** in "\xgml\9469.dtd", line 730:
  An element with mixed content should permit data characters ("#PCDATA")
  everywhere.
  The element being declared is "NOTICE".
  <!ELEMENT notice      - o      (para+ |%paracon;)      +(table) >
                                              /\
-->

<!-- **Warning** in "\xgml\9469.dtd", line 818:
  An element with mixed content should permit data characters ("#PCDATA")
  everywhere.
  The element being declared is "INTERNATLSTD".
                                %paracon;)      >
                                              /\
-->

<!-- **Warning** in "\xgml\9469.dtd", line 857:
  An element with mixed content should permit data characters ("#PCDATA")
  everywhere.
  The element being declared is "HOWTOUSE".
                                %paracon;)      >
                                              /\
-->

<!-- **Warning** in "\xgml\9469.dtd", line 1366:
  An element with mixed content should permit data characters ("#PCDATA")
  everywhere.
  The element being declared is "CALLOUT".
  <!ELEMENT callout      - -      (#PCDATA | graphic)      >
                                              /\
-->
```

```
<!-- **Warning** in "\xgml\9469.dtd", line 1549:
  An element with mixed content should permit data characters ("#PCDATA")
  everywhere.
  The element being declared is "ENTRY".
                                     | %paracon;) >
                                     /\

-->
<!-- **Warning** in "\xgml\9469.dtd", line 1588:
  An element with mixed content should permit data characters ("#PCDATA")
  everywhere.
  The element being declared is "FTNOTE".
                                     %paracon;)      -(ftnote | ft
                                     /\

-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "CFGPGGE".

-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "CONASSURPG".

-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "COVERINDEX".

-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "REFDOC".

-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "SHORTTITLE".

-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "STALOC".

-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "TESTCODE".
```

```
<!-- Capacity points/limits:
TOTALCAP =163221/200000
ENTCAP   =11872/200000
ENTCHCAP =6965/70000
ELEMCAP  =5696/70000
GRPCAP   =59200/70000
EXGRPCAP =416/70000
EXNMCAP  =992/70000
ATTCAP   =44160/200000
ATTCHCAP =756/70000
AVGRPCAP =32608/70000
NOTCAP   =192/70000
NOTCHCAP =364/70000
IDCAP    =0/70000
IDREFCAP =0/70000
MAPCAP   =0/70000
LKSETCAP =0/70000
LKNMCAP  =0/70000
-->
<!-- 15 warnings reported. -->
```

11.3 Sema Mark-it Log

No reported errors

11.4 Public Domain sgmls Log

```
sgmls: Warning at \ws\9469.dtd, line 449 in declaration parameter 4:
      End-tag minimization should be "0" for EMPTY element
sgmls: Warning at \ws\9469.dtd, line 531 in declaration parameter 4:
      End-tag minimization should be "0" for EMPTY element
```

12. Appendix D - Detailed CGM Analysis

12.1 File D001C004

12.1.1 Parser Log MetaCheck

MetaCheck Version 2.10 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-93 CGM Technology Software
Execution Date: 06/13/94 Time: 10:44:35

Metafile Examined : i:\94069\c104.cgm

Pictures Examined : All
Elements Examined : All
Bytes Examined : All

===== Trace Report =====

Tracing not selected.

===== CGM Conformance Violation Report =====

No Errors Detected

===== CALS CGM Profile (MIL-D-28003) Report =====

No profile discrepancies detected.

===== Conformance Summary Report =====

MetaCheck Version 2.10 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-93 CGM Technology Software
Execution Date: 06/13/94 Time: 10:44:38

Name of CGM under test: i:\94069\c104.cgm
Encoding : Binary

Pictures Examined : All
Elements Examined : All
Bytes Examined : All

BEGIN METAFILE string : >allreal.cgm<
METAFILE DESCRIPTION : >NORTHROP B2 ITDS GEF, MIL-D-28003/BA<
>SIC-1<

Picture 1 starts at octet offset 202: >Picture 1<

Conformance Summary : This file conforms to the CGM specification.
This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested
272 Elements Tested
3980 Octets Tested

```
=====
|      No Errors Were Detected      |
=====
```

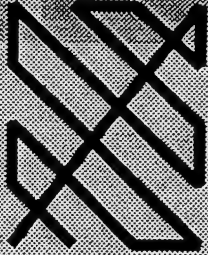
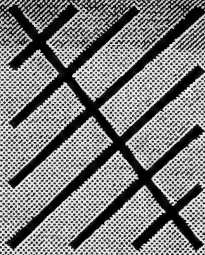
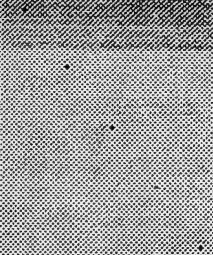
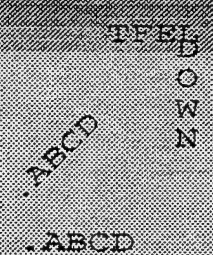
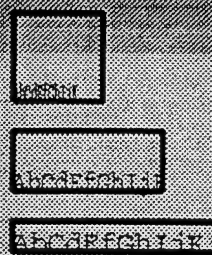
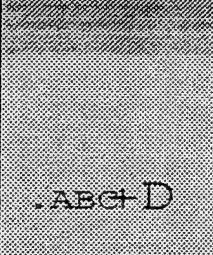
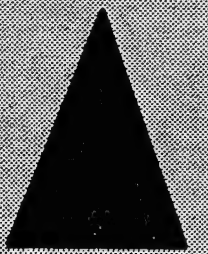
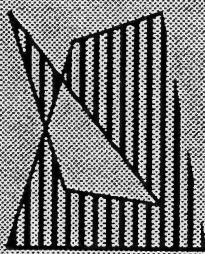
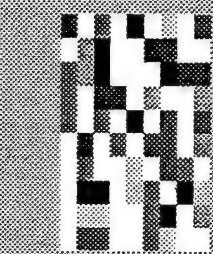
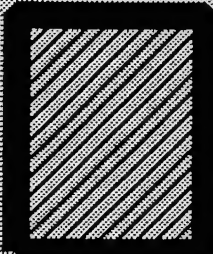
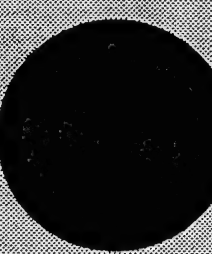
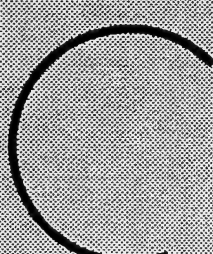
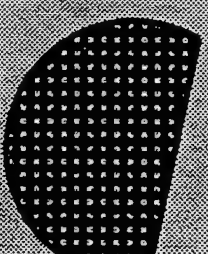
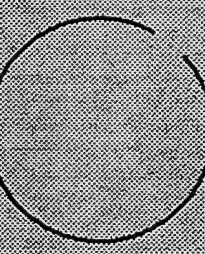
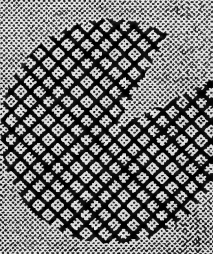
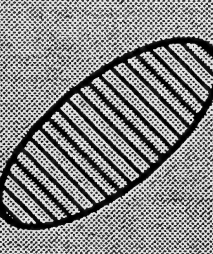
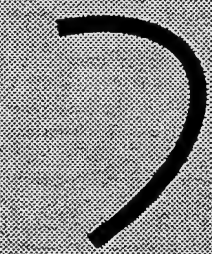
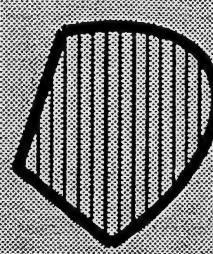
===== End of Conformance Report =====

12.1.2 validcgm Log

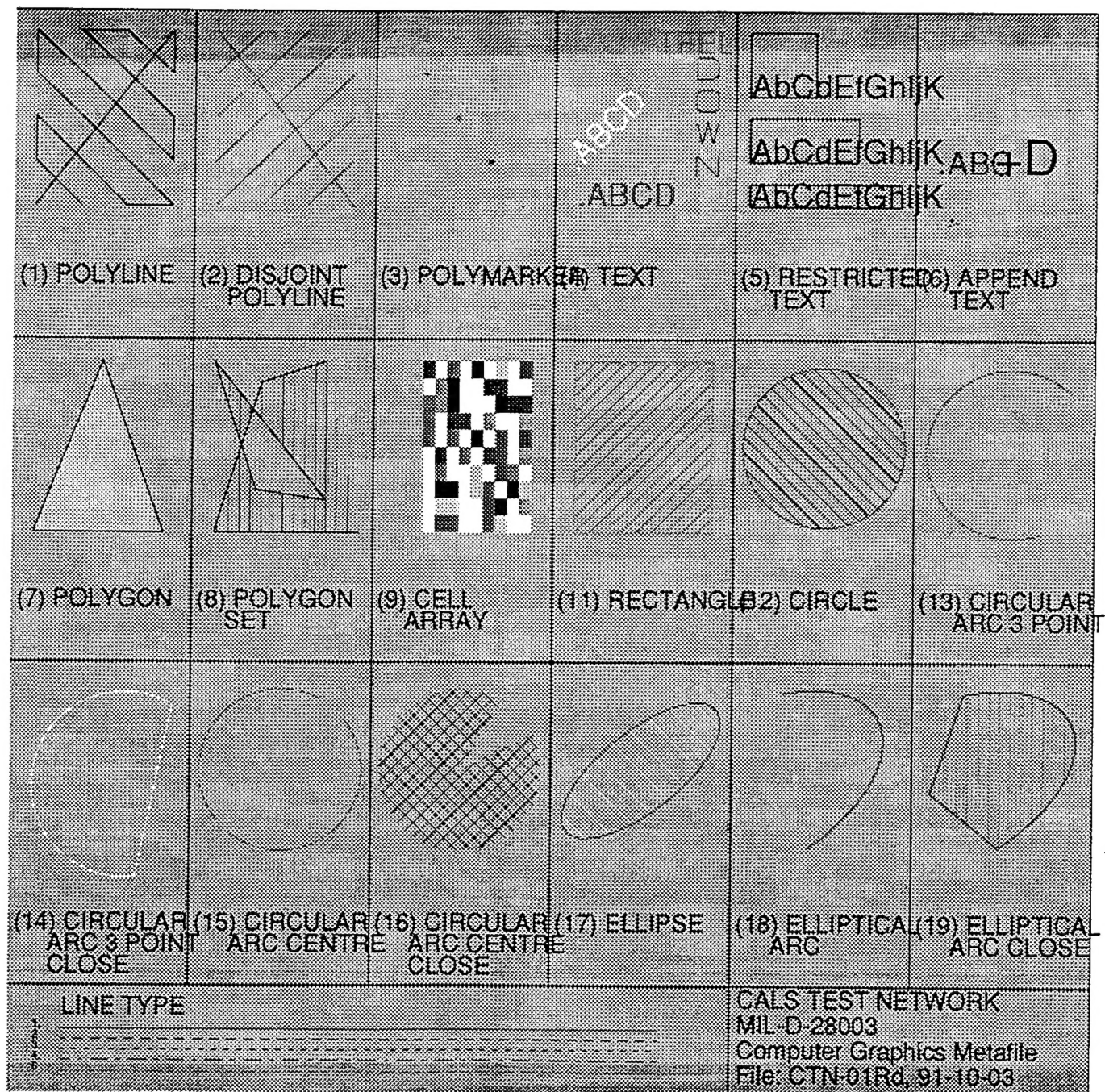
Analysis for file c104.cgm using table table
ERROR: illegal in this state (2), std B
ERROR: required precursor (0, 4) not yet seen
(14.1, 0) (3, 6, 2) Clip Indicator OFF
MILSPEC 28003 error: illegal hatch index
(173, 2354) (5, 24, 2) Hatch Index 6
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 5) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(1, 12) occurred 1 time
(1, 13) occurred 1 time
(2, 2) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time

(3, 2) occurred 1 time
(3, 6) occurred 1 time
(3, 6) occurred illegally 1 time
(4, 1) occurred 32 times
(4, 3) occurred 5 times
(4, 4) occurred 50 times
(4, 7) occurred 3 times
(4, 9) occurred 1 time
(4, 12) occurred 2 times
(4, 15) occurred 3 times
(4, 16) occurred 2 times
(4, 17) occurred 2 times
(4, 18) occurred 2 times
(4, 19) occurred 1 time
(5, 2) occurred 17 times
(5, 3) occurred 17 times
(5, 4) occurred 17 times
(5, 6) occurred 5 times
(5, 7) occurred 5 times
(5, 8) occurred 5 times
(5, 10) occurred 3 times
(5, 12) occurred 5 times
(5, 13) occurred 1 time
(5, 14) occurred 7 times
(5, 15) occurred 5 times
(5, 16) occurred 7 times
(5, 17) occurred 4 times
(5, 18) occurred 1 time
(5, 22) occurred 10 times
(5, 23) occurred 8 times
(5, 24) occurred 7 times
(5, 27) occurred 2 times
(5, 28) occurred 2 times
(5, 29) occurred 2 times
(5, 30) occurred 10 times
(5, 31) occurred 7 times
(5, 34) occurred 1 time

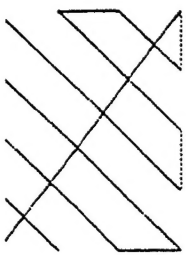
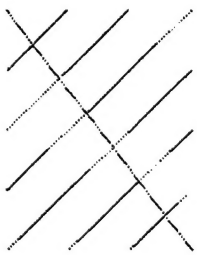
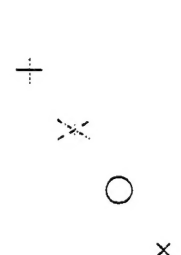

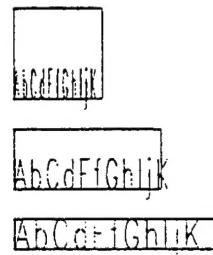
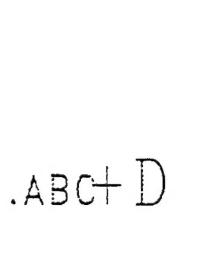
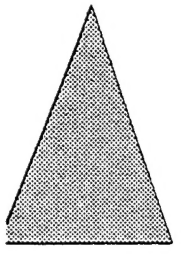
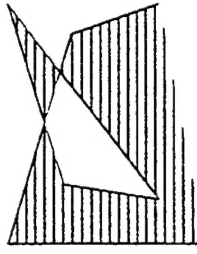
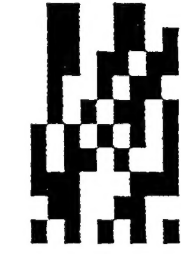
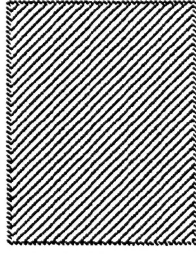
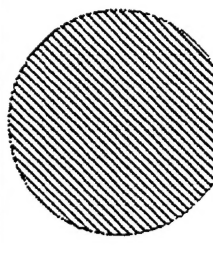
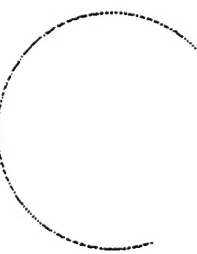
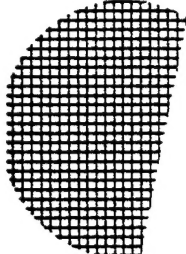


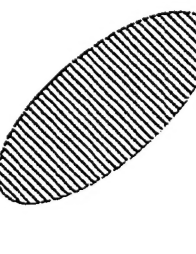
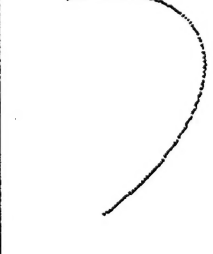
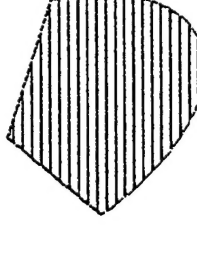
12.1.3 Output CADLeaf

					
(1) POLYLINE	(2) DISJOINT POLYLINE	(3) POLYMARKER	(4) TEXT	(5) RESTRICTED TEXT	(6) APPEND TEXT
					
(7) POLYGON	(8) POLYGON SET	(9) CELL ARRAY	(11) RECTANGLE	(12) CIRCLE	(13) CIRCULAR ARC 3 POI
					
(14) CIRCULAR ARC 3 POINT CLOSE	(15) CIRCULAR ARC CENTRE	(16) CIRCULAR ARC CENTRE CLOSE	(17) ELLIPSE	(18) ELLIPTICAL ARC	(19) ELLIPTICAL ARC CLOSE
LINE TYPE				CALS TEST NETWORK MTL-D-28003 Computer Graphics Metafile File: CTRN-GIRD. 94-10-03	

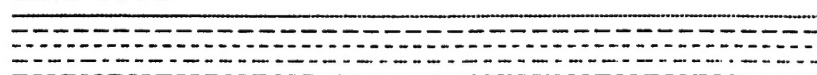
12.1.4 Output CALSView



12.1.5 Output IslandDraw

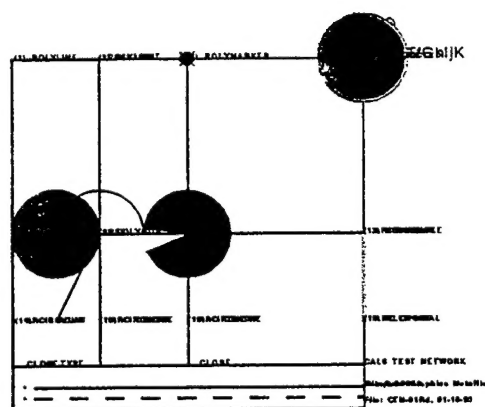
					
) POLYLINE	(2) DISJOINT POLYLINE	(3) POLYMARKER	(4) TEXT	(5) RESTRICTED TEXT	(6) APPEND TEXT
					
) POLYGON	(8) POLYGON SET	(9) CELL ARRAY	(11) RECTANGLE	(12) CIRCLE	(13) CIRCULAR ARC 3 PC
					
4) CIRCULAR ARC 3 POINT CLOSE	(15) CIRCULAR ARC CENTRE	(16) CIRCULAR ARC CENTRE CLOSE	(17) ELLIPSE	(18) ELLIPTICAL ARC	(19) ELLIPTIC, ARC CLOS

LINE TYPE



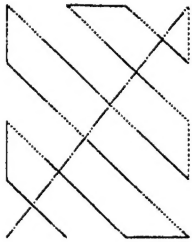
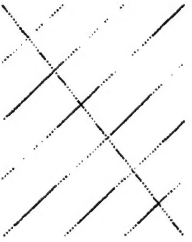
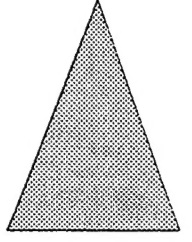
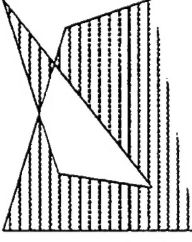
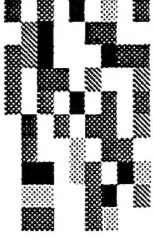
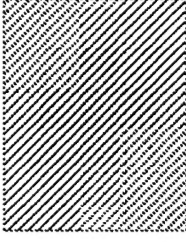
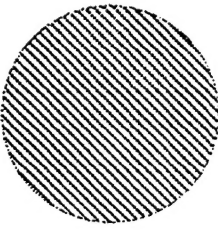
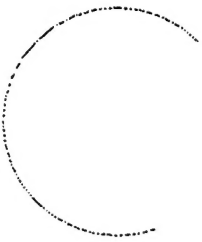
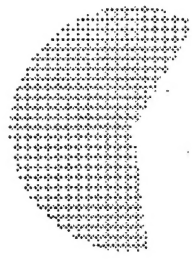

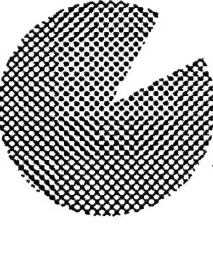

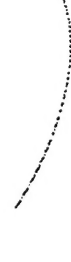
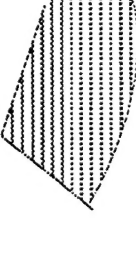
CALS TEST NETWORK
MIL-D-28003
Computer Graphics Metafile
File: CTN-01Rd, 91-10-03

12.1.6 Output Harvard Graphics



hg305
C104

12.1.7 Output IslandDraw v4.0

			<p>DOWN</p> <p>AbCdEfGhIjK</p> <p>AbCdEfGhIjK</p> <p>AbCdEfGhIjK</p> <p>.ABCD</p>	<p>AbCdEfGhIjK</p> <p>AbCdEfGhIjK</p> <p>AbCdEfGhIjK</p>	<p>.ABC +D</p>
(1) POLYLINE	(2) DISJOINT POLYLINE	(3) POLYMARKER	(4) TEXT	(5) RESTRICTED TEXT	(6) APPEND TEXT
					
(7) POLYGON	(8) POLYGON SET	(9) CELL ARRAY	(11) RECTANGLE	(12) CIRCLE	(13) CIRCULAR ARC 3 POINT
					
(14) CIRCULAR ARC 3 POINT CLOSE	(15) CIRCULAR ARC CENTRE	(16) CIRCULAR ARC CENTRE CLOSE	(17) ELLIPSE	(18) ELLIPTICAL ARC	(19) ELLIPTICAL ARC CLOSE
<p>LINE TYPE</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>4. _____</p> <p>5. _____</p>				<p>CALS TEST NETWORK</p> <p>MIL-D-28003</p> <p>Computer Graphics Metafile</p> <p>File: CTN-01Rd, 91-10-03</p>	